CHAPTER I

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The traditional narrow definition of health (in terms of mortality and serious morbidity) has been replaced by a much broader definition which encompasses "physical, mental and social well-being, and not merely the absence of disease or infirmity". Steadily decreasing maternal and perinatal mortality rates in developed countries over the last few decades have led to a growing expectation that pregnancy and childbirth should at the very least result in a live mother and baby. While such outcomes are expected in many countries, they can never be taken for granted, and the corresponding levels of dissatisfaction when the clinical outcome is poor have resulted in rising levels of complaints and litigation.

Nevertheless, the focus of antenatal care in developed countries has expanded from its traditional aim of preventing, detecting and managing problems and factors which might adversely affect the health of mother and/or baby. The broader approach echoes the development of 'quality of life'-focused assessments in the wider field of health care. Within maternity care, one of the main areas of interest to researchers has been women's satisfaction levels with their care.

Perinatal mortality in rural India with special reference to high risk pregnancies, early neonatal mortality was found to be 97.4% per thousand live births.20% of women were identified with high risk factors.

1.2 NEED FOR THE STUDY

Richs, s.s, Williams, L, Kyle, T. (2007) A high risk pregnancy is the one in which the life or health of the mother or fetus is jeopardized or endangered by disorder coincidental with or unique to pregnancy. The risk factors may be pre- existing factors prior to or at the time of antenatal visit or may develop subsequently in the ongoing pregnancy. Almost 50% of all maternal complication and 60% of all primi cesarean section arise from high-risk group of cases.

Paudel,I.S,Singh,S.P,Jha(2008) have reported in their study that the proportion of high risk pregnancies that is below 17 yrs and above 35 yrs with spacing less than 24 months were

30%.Education of mother showing high association with the prevalence of high risk pregnancies.

GLOBAL STATISTICS

According to World Health Organization. (2011). the prevalence of high risk pregnancy in Asia ranges from 20-30%. 70-80% of maternal mortality is due to:- Severe bleeding or hemorrhage (25%), Infections (15%). Unsafe abortions (13%), Eclampsia (12%), Obstructed labor (8%), Other direct causes (8%), Indirect causes like Malaria (20%)

According to Indian statistical data (2013) The prevalence and correlation of high risk pregnancy in rural Haryana implies that the prevalence of high risk pregnancy was found to be(31.4%),more in lower socioeconomic group(33.4%), lower education group is (36.7%). Early identification and prompt treatment of high risk pregnancy can prevent the development of both maternal and fetal morbidity and mortality. Education of female with the motivation and efforts of the health professionals is essential for safe motherhood.

1.3 STATEMENT OF THE PROBLEM

Effectiveness of Information Technology enabled program on risk reduction (knowledge, physiological parameters and quality of life) among high risk mothers at selected PHC

1.4 OBJECTIVES

Primary Objectives:

- To determine the effectiveness of IT enabled program on risk reduction among high risk mothers.
- To correlate the knowledge, physiological parameters and quality of life among high risk mothers.
- To associate the mean difference level of knowledge, physiological parameters and quality of life among high risk mothers with the selected demographic variables.

Secondary objective:

- To assess the perceived level of satisfaction in IT enabled program on risk reduction among high risk mothers.

1.5 RESEARCH HYPOTHESIS

- **RH_1:** There is a significant difference between the pre and posttest level of knowledge, physiological parameters and quality of life among high risk mothers within and between experimental and control group.

- **RH_2:** There is a significant correlation between knowledge, physiological parameters and quality of life among high risk mothers in experimental and control group.
- **RH_3:** There is a significant association between the level of knowledge, physiological parameters and quality of life among high risk mothers with their selected demographic variables.

CHAPTER II

REVIEW OF LITERATURE

2.1 Studies related to High Risk pregnancy

Jiawei Xu etal,(2023) Lifestyle interventions to prevent adverse pregnancy outcomes in women at high risk for gestational diabetes mellitus: a randomized controlled trial .. Methods: The study included 251 women at high risk of GDM and 128 randomized to lifestyle interventions (dietary guidance, health education, and weight management); One hundred and twenty-three people were randomly assigned to a control group (regular pregnancy check-ups). Counts between groups were compared using either chi-square test or Fisher's exact test. Conclusion: The lifestyle intervention in this study helped pregnant women to better understand knowledge related to pregnancy, reduce stress and anxiety, and increase intake of adequate prenatal nutrition. This intervention prevented metabolic abnormalities that may occur due to inadequate nutrient intake during pregnancy. In addition, it helped women to control weight gain, maintain appropriate weight gain during pregnancy, and reduce the risk of excessive or insufficient weight gain, ultimately lowering the incidence of GDM and PIH. This highlights the importance of early screening and intervention for high-risk pregnant women.

Studies related to Quality of life

Fatemeh Estebsari etal., (2020) Conducted a study to investigate the health-related quality of life (HRQoL) and related factors among pregnant women. **Results:** Physical dimension of quality of life of pregnant women had the mean and standard deviation of 43.7 ± 7.3 and that psychological dimension had the mean and standard deviation of 31.5 ± 11.8. Physical dimension of quality of life was significantly correlated with maternal age, gestational age, body mass index before 12 weeks of pregnancy, mother's education and job as well as spouse's level of education ($P < 0.05$). Furthermore, the psychological dimension of quality of life was significantly correlated with gestational age, mother's education and occupation as well as spouse's level of education ($P < 0.05$). Conclusions: According to the results of this

study, considering this issue, especially in terms of identifying demographic factors affecting it, it can be emphasized that the production and conduct of scientific and expert research to identify all aspects of this area and to solve the problems and factors that create the problems are among the basic needs of our society. The results of this study can be used as a basis for designing appropriate interventions to enhance the lifestyle and subsequently quality of life of pregnant women by policymakers and health-care providers, especially for the health of pregnant women. It is also helpful to provide staff with the necessary training to better justify mothers with the benefits of health-promoting behavior.

Studies related to Information Technology

Matthijs R van Dijk (2020) conducted the study A Mobile App Lifestyle Intervention to Improve Healthy Nutrition in Women Before and During Early Pregnancy. They developed the lifestyle intervention Smarter Pregnancy to empower women to adapt a healthy diet prior to conception and during early pregnancy and performed a randomized controlled trial. The objectives of this trial were to investigate compliance and effectiveness in women using the Smarter Pregnancy program. Women aged between 18 and 45 years who were contemplating pregnancy or <13 weeks pregnant and their male partners living in the urban area of Rotterdam, the Netherlands, were eligible for participation. After baseline screening, the intervention group received personal online coaching based on identified inadequate intakes of vegetables, fruits, and folic acid supplements. The sum of these risk factors was used as a dietary risk score (DRS), ranging from 0 (healthy) to 9 (unhealthy). The control group did not receive coaching. We applied an intention-to-treat principle and used a multivariable linear regression model to evaluate the change in DRS after 24 weeks. Compliance was defined as the percentage of women who completed the screening questionnaire at 24 weeks. Conclusions: The high compliance and the larger improvements in nutritional behaviors, especially vegetable intake, in women in the intervention group emphasizes the effectiveness of empowering women by using the lifestyle change intervention Smarter Pregnancy.

2.2 RESEARCH GAP IDENTIFIED

- Various studies have been done among pregnant mothers with single high risk component but no studies addressed on interventions of multiple high risk components.
- There is limited research on effectiveness of information technology enabled program to reduce the risk of hig risk pregnancy.

- ❖ The literature review also implies that, improving the knowledge and awareness about the hig risk pregnancy about early antenatal care and life-style interventions improving obstetric outcomes.

CHAPTER III

RESEARCH METHODOLOGY

3.1 RESEARCH APPROACH:

Quantitative research approach

3.2 RESEARCH DESIGN:

The design chosen by the investigator is true experimental design.

3.3 RESEARCH VARIABLES

Independent variable: Information Technology enabled program.

Dependent Variables: Knowledge, physiological parameters, and quality of life

Demographic variables:

Age, Religion, Qualification, Type of Family, Family Monthly income, Place of Residence, occupation, Sources of information on high-risk pregnancy.

Clinical Variables

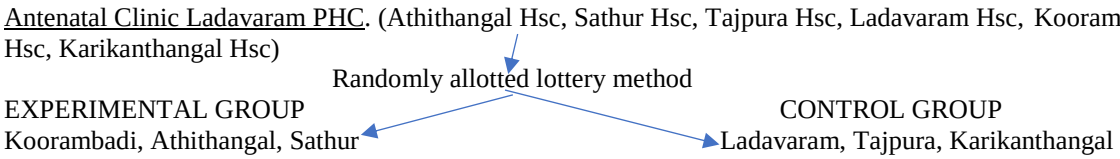
Height, Weight, BMI, Blood Pressure**.** Mean arterial pressure (MAP), **Blood** - Hemoglobin, Glucose Challenge test (GCT), Urine – Albumin, Sugar, gestational weeks.

Extraneous Variables

Environment, fear and anxiety.

3.4 SETTING OF THE STUDY:

The study was conducted at selected PHC Ranipet district.


Antenatal Clinic Ladavaram PHC. (Athithangal Hsc, Sathur Hsc, Tajpura Hsc, Ladavaram Hsc, Koorambadi Hsc, Karikanthangal Hsc)
Randomly allotted lottery method
EXPERIMENTAL GROUP
Koorambadi, Athithangal, Sathur
CONTROL GROUP
Ladavaram, Tajpura, Karikanthangal

3.5 POPULATION:

TARGET POPULATION:

The target population include all primi gravida mothers (<_28wks of GA) with Highrisk pregnancies such as pregnancy induced hypertension, Gestational diabetic mellitus and Anemia.

ACCESSIBLE POPULATION

Primi mothers with any one of the highrisk pregnancies such as pregnancy induced hypertension, Gestational diabetic mellitus and Anemia who are attending antenatal OPD at selected PHC in Ranipet district.

3.6 SAMPLE:

Mothers those who fulfilled the inclusion criteria were the samples for the study.

Sample selection criteria:

Inclusion criteria:

- Mothers who are willing to participate in the study
- Primi mothers with high risk pregnancy.
- Mothers newly diagnosed with anemia, gestational diabetes mellitus and pregnancy induced hypertension
- Mothers who can speak and read Tamil or English

Exclusive Criteria

- Mother conceived through infertility treatment
- Mother with multiple pregnancy
- Mothers who don't have access for using mobile phone.

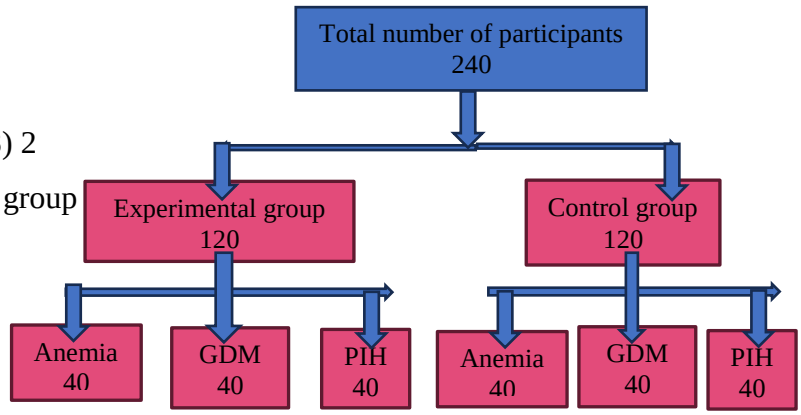
3.7 Determination of sample size

- Sample size was determined using power analysis
- Based on the Mrs. Geetachaudhar etal study, the average standard deviation of knowledge score is4.33. Required sample size will be 109high risk mothers per group to demonstrate mean difference of 1.9knowledge score between pretest and post-test (10.3 to 12.2) with a power of the study 90%

(type II error $\beta = 10\%$) and at a 95% confidence of result (type 1 error $\alpha = 5\%$). After allowing 10% of dropout rate, final sample size was108mothers per group (120 experiment + 120control) were included in this study.

- N = $2\sigma 2 (z\alpha + z\beta)2$
- σ = 4.33
- α = 1.96(95% confidence level)
- β = 1.28(90% power of the study)
- D = 1.90 (meaningful difference)

- N = 2(4.33)2(1.96 + 1.28) 2
  1.902 = 109 per group
- Drop out =10% =109x10/100 =11
- So 109+11=120 =per group



3.8 SAMPLING TECHNIQUE:

Stratified random sampling technique

3.9 DEVELOPMENT & DESCRIPTION OF THE TOOL

Demographic variables

Socio demographic:

Age, Religion, Education, Type of Family, Monthly income, Area of Residence, religion, type of occupation, previous information about high-risk pregnancy, gestational weeks.

SECTION –A: Assessing the level of knowledge on high risk pregnancy

This was assessed using structured knowledge questionnaire on high risk pregnancy.

Tool: Structure knowledge questionnaire on high risk pregnancy with anemia has got 30multiple choice questions.

Structure knowledge questionnaire on high risk pregnancy with GDM has got 30 multiple choice questions.

Structure knowledge questionnaire on high risk pregnancy with PIH has got 30 multiple choice questions.

SECTION - B: Assessing the physiological parameters related to high risk pregnancy

WHO's Diagnostic criteria for GDM, Anemia and PIH are as follows:

- WHO Classification of Anemia in Pregnancy are When the blood hemoglobin is ≥ 11 gm/dl normal, 10-10.9 gm/dl mild anemia, 7-7.9 moderate anemia, < 7gm/dl severe anemia.
- The WHO endorses universal screening for GDM at 24-28 weeks of gestation using the 75gm 2hr PG (cut offs fasting ≥126mg/dL & ≥140mg/dL).
- WHO Classification of PIH : mild (SBP 140-149 and DBP 90-99 mmHg), moderate (SBP 150-159 and DBP 100-109 mmHg) and severe (SBP ≥ 160 and DBP ≥ 110 mmHg).

3.10 VALIDITY AND RELIABILTY OF THE TOOL

- After construction of questionnaire for the study on "effectiveness of information technology enabled program on risk reduction (knowledge, physiological parameters and quality of life) among high risk mothers at selected PHC".It was tested for its validity and reliability.
- Validity of the tool was assessed using content validity . content validity was determined by experts from nursing and medical field.
- After pilot study reliability of the tool was assessed by using test retest method , cron bach alpha method and inter rater method. Knowledge score reliability correlation coefficient value is 0.82, WHO QOL score reliability correlation coefficient value is 0.85 , skill score reliability correlation coefficient value is 0.82, satisfaction score reliability correlation coefficient value is 0.84 height(0.90), weight(0.92), bmi(0.87), sbp(0.93), dbp(0.86), hb(0.94), gct(0.88), urine albumi(0.89), urine sugar (0.90). These correlation coefficients are very high hence the tool was found to be effective.

3.11 SCORING INTERPRETATION OF THE TOOL

S.No.	Data collection tool	Variables assessed	Scoring
1.	Structured knowledge questionnaire	To assess the level of Knowledge regarding high risk pregnancy.	SCORE Upto 50% -Inadequate knowledge 51% – 75% -Moderate knowledge >75% -Adequate knowledge
2.	WHO brief modified QOL tool	▪ To assess the level of Quality of life in various domains. ▪ To assess the Correlation between mean knowledge gain score , QOL gain score	▪ Min=1 Max=4 Total items=26 Total score=130 130 converted to 100 < 50 Poor QOL 51 – 75 Moderate QOL 76 – 100 Good QOL ▪ Karl pearson correlation coefficient is denoted by "r" "r" always lies between -1 to +1 0.0 – 0.2 poor correlation 0.2 - 0.4 fair correlation 0.4 - 0.6 moderate correlation 0.6 – 0.8 substantial correlation 0.9-1.0 strong correlation

3.	Modified Satisfaction with Life Scale (SWLS)	To assess the level of satisfaction on interventions among high risk mothers in experimental group	31-35: Extremely satisfied 26-30: Satisfied 21-25: Slightly satisfied 20: Neutral 15-19: Slightly dissatisfied 10-14: Dissatisfied 5-9: Extremely dissatisfied

3.12 ETHICAL CONSIDERATION

- IEC Approval NO: 2020/626 Institute Human Ethics Committee
- All ethical considerations for the participants were ensured
- Participants were given rights to withdraw from the study at anytime
- Participants confidentiality was ensured
- Informed consent was obtained from the participants
- Control group was provided with routine care, general health education & yoga practices during the study period.
- Waitlisted intervention was given to the control group once the data collection was complete in order to help them out for their future pregnancies..

3.13 PILOT STUDY

- Conducted during the period of Feb-2023 to May-2023 at Arumbakkam PHC Ranipet district.
- Feasible to conduct the study.
- Sample size is feasible.
- Study centres were cooperative to carry out the main study
- There has been a good impact of the intervention in the study group.
- No other modifications done in the questionnaire.

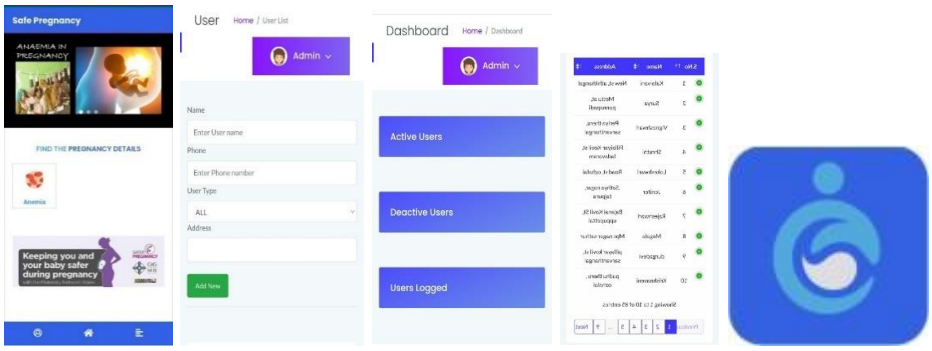
3.14 DATA COLLECTION PROCEDURE

Group	**Pretest**	**Interventions**	**Intervention period and follow up**	**Posttest (after 2months)**

Experimental Group Sampling technique – Stratified Random sampling technique Sample selection As per the availability	1.Registration for mobile application. 2.Obtained Informed consent 3.Demographic variables were assessed 4.Physiological Parameters were recorded 5.Knowledge was assessed using Questionnaire with multiple choice questions for GDM, Anemia, and PIH 6. Quality of life was assessed using modified WHO BREF Quality of life questionnaire which contains checklist.	1. Registering Antenatal mother's details for login (for any one conditions such as Anemia, GDM, PIH). 2. Information about disease condition such as meaning, risk factors, signs and symptoms, diagnostic measures, availability of treatments ,vaccine information, details of medical managements, diet modifications, exercises, yoga(video) and meditation during high risk pregnancy were taught.	2 MONTHS Follow up through Phone call register for routine follow-up and for assuring practices. Reassess and ensuring about their practices during weekly AN visits. Home visit of village health nurses Weekly visit of high risk mothers by Mid Level Health Provider(MLHP)	1.Physiological Parameters were recorded 2.Knowledge was assessed using Questionnaire with multiple choice questions for GDM, Anemia, and PIH 3. Quality of life was assessed using modified WHO BREF Quality of life questionnaire which contains checklist. 4.Level of satisfaction on intervention was assessed using modified checklist. 5.There was no dropout.
Control Group Sampling technique – Stratified Random sampling technique Sample selection As availability	1.Registration for mobile application. 2.Obtained Informed consent 3.Demographic variables were assessed 4.Physiological Parameters were recorded 5.Knowledge was assessed using Questionnaire with multiple choice questions for GDM, Anemia, and PIH	Routine care and health education was given.	2 MONTHS Phone call register as routine follow up	1.Physiological Parameters were recorded 2.Knowledge was assessed using Questionnaire with multiple choice questions for GDM, Anemia, and PIH 3. Quality of life was assessed using modified WHO BREF Quality of life questionnaire

	6. Quality of life was assessed using modified WHO BREF Quality of life questionnaire which contains checklist.			which contains checklist. 4.Mobile application intervention was given as waitlisted intervention.

3.15 SAFE PREGNANCY- Mobile APP



CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

Table.no: 4.1 Frequency and percentage distribution of high risk antenatal mothers in experimental and control group

Demographic variables		GDM					ANEMIA					PIH				
		Group				Chi square test	Group				Chi square test	Group				Chi square test
		Experimental (n=40)		Control (n=40)			Experimental(n=40)		Control (n=40)			Experimental(n=40)		Control (n=40)		
		n	%	n	%		n	%	N	%		n	%	n	%	
Age group	< 20 years	6	15.00 %	9	22.50 %		20	50.00 %	18	45.00 %		17	42.50 %	18	45.00 %	

	21-25years	29	72.50%	27	67.50%	χ2=0.78 p=0.68 (NS)	17	42.50%	20	50.00%	χ2=0.55 p=0.76 (NS)	17	42.50%	18	45.00%	χ2=0.46 p=0.80 (NS)
	26-30years	5	12.50%	4	10.00%		3	7.50%	2	5.00%		6	15.00%	4	10.00%	
	>30years	0	0.00%	0	0.00%		0	0.00%	0	0.00%		0	0.00%	0	0.00%	
GESTATIONAL AGE in weeks	<20 weeks	6	15.00%	3	7.50%	χ2=1.12p=0.57(NS)	10	25.00%	8	20.00%	χ2=1.64p=0.44(NS)	9	22.50%	8	20.00%	χ2=0.10 p=0.95(NS)
	21-25 weeks	22	55.00%	24	60.00%		22	55.00%	19	47.50%		20	50.00%	20	50.00%	
	25-30 weeks	12	30.00%	13	32.50%		8	20.00%	13	32.50%		11	27.50%	12	30.00%	
Religion	Hindu	34	85.00%	33	82.50%	χ2=1.13 p=0.57 (NS)	32	80.00%	35	87.50%	χ2=0.86 p=0.64 (NS)	33	82.50%	38	95.00%	χ2=4.55 p=0.10(NS)
	Muslim	1	2.50%	3	7.50%		6	15.00%	4	10.00%		4	10.00%	0	0.00%	
	Christian	5	12.50%	4	10.00%		2	5.00%	1	2.50%		3	7.50%	2	5.00%	
Qualification	9th std	17	42.50%	16	40.00%	χ2=3.77 p=0.29 NS)	14	35.00%	16	40.00%	χ2=1.41 p=0.70 NS)	13	32.50%	10	25.00%	χ2=0.66 p=0.88 NS)
	10th std	16	40.00%	22	55.00%		17	42.50%	19	47.50%		15	37.50%	18	45.00%	
	12th std	3	7.50%	1	2.50%		4	10.00%	2	5.00%		10	25.00%	10	25.00%	
	Diploma	4	10.00%	1	2.50%		5	12.50%	3	7.50%		2	5.00%	2	5.00%	
Type of family	Joint family	26	65.00%	22	55.00%	χ2=0.83 p=0.36 (NS)	21	52.50%	25	62.50%	χ2=0.82 p=0.37 (NS)	18	45.00%	22	55.00%	χ2=0.80 p=0.37(NS)
	Nuclear family	14	35.00%	18	45.00%		19	47.50%	15	37.50%		22	55.00%	18	45.00%	
	<Rs.5000	0	0.00%	0	0.00%		0	0.00%	0	0.00%		0	0.00%	0	0.00%	

Family monthly income	Rs.5000 - 10000	21	52.50 %	20	50.00 %	$\chi2=0.56$ p=0.76 (NS)	19	47.50 %	23	57.50 %	$\chi2=0.91$ p=0.63 (NS)	21	52.50 %	19	47.50 %	$\chi2=0.22$ p=0.89(NS)
	Rs.10000 – 15000	16	40.00 %	15	37.50 %		17	42.50 %	13	32.50 %		15	37.50 %	17	42.50 %	
	>Rs.15000	3	7.50 %	5	12.50 %		4	10.00 %	4	10.00 %		4	10.00 %	4	10.00 %	
Place of residence	Rural	38	95.00 %	38	95.00 %	$\chi2=0.00$ p=1.00 (NS)	34	85.00 %	36	90.00 %	$\chi2=0.46$ p=0.49 (NS)	40	100.00 %	40	100.00 %	$\chi2=0.00$ p=1.00(NS)
	Urban	2	5.00 %	2	5.00 %		6	15.00 %	4	10.00 %		0	0.00%	0	0.00%	
Occupation	Sedentary worker	3	7.50 %	4	10.00 %	$\chi2=0.15$ p=0.69 (NS)	5	12.50 %	2	5.00 %	$\chi2=1.42$ p=0.49 (NS)	4	10.00 %	3	7.50%	$\chi2=0.16$ p=0.69 (NS)
	Moderate worker	0	0.00 %	0	0.00 %		3	7.50%	3	7.50 %		0	0.00%	0	0.00%	
	Heavy worker	0	0.00 %	0	0.00 %		0	7.50%	3	7.50 %		0	0.00%	0	0.00%	
	Unemployed	37	92.50 %	36	90.00 %		32	80.00 %	35	87.50 %		36	90.00 %	37	92.50 %	
Source of information	Mass media	3	7.50 %	2	5.00 %	$\chi2=1.44$ p=0.48 (NS)	4	10.00 %	6	15.00 %	$\chi2=0.56$ p=0.76 (NS)	3	7.50%	4	10.00 %	$\chi2=0.82$ p=0.66(NS)
	Family and friends	31	77.50 %	35	87.50 %		32	80.00 %	31	77.50 %		33	82.50 %	34	85.00 %	
	Health personnel	6	15.00 %	3	7.50 %		4	10.00 %	3	7.50 %		4	10.00 %	2	5.00%	
	Printed materials	0	0.00 %	0	0.00 %		0	0.00%	0	0.00 %		0	0.00%	0	0.00%	

Since p>0.05 there was no significant difference in all the three groups between the experimental and control group and were homogenous in nature.

Fig:1-9 Shows Frequency and percentage distribution of highrisk antenatal mothers in experimental and control group

Objective 1: To assess the effectiveness of IT enabled program on risk reduction among mothers with high risk pregnancy.

Table.no:4.2 Comparison of Pretest Clinical investigations between the experimental and control group

In pretest, statistically there is no significant difference between experimental and control group among high risk mothers.

Fig:10 Comparison of Pretest Clinical investigations

Table.no :4.3 Comparison of Post test Clinical investigations between the experimental and control group

shows that in posttest evaluations, there is no statistically significant difference between the experimental and control groups of high-risk mothers, except GCT, Hemoglobin, SBP, DBP.

Fig:11 Comparison of Post test Clinical investigations

Table.no:4.4 Comparison of Pretest and Posttest Clinical investigations in Experimental group

Statistically there is no significant difference between pretest and posttest of high risk mothers in experimental group except SBP, DBP, GCT. It was calculated using student paired t-test.

Table.no:4.5 Comparison of Pretest and Posttest Clinical investigations in control group

Statistically there is no significant difference between pretest and posttest of high risk mothers in experimental group. It was calculated using student paired t-test.

Table.no :4.6 Comparison Of Pretest Level Of Urine Albumin between the experimental and control group.

Statistically there is no significant difference between experimental and control group. It was assessed using chi-square test.

Table.no :4.7 Comparison Of Posttest Level Of Urine Albumin between the experimental and control group.

Level of urine sugar	GDM					ANEMIA					PIH				
	Experimental group		Control group		Chi square test	Experimental group		Control group		Chi square test	Experimental group		Control group		Chi square test
	n	%	n	%		n	%	n	%		n	%	n	%	
Nil	0	0.00 %	0	0.00 %	$\chi 2$= 0.00 P=1.00 (NS) DF= 1	0	0.00 %	0	0.00 %	$\chi 2$= 0.00 P=1.00 (NS) DF= 1	11	27.50%	0	0.00 %	$\chi 2$=12.75 P=0.001*** (S) DF=1
Absent	40	100.00%	40	100.00%		40	100.00%	40	100.00%		29	72.50%	40	100.00%	
Trace	0	0.00 %	0	0.00 %		0	0.00 %	0	0.00 %		0	0.00 %	0	0.00 %	
Total	**40**	**100 %**	**40**	**100 %**		**40**	**100 %**	**40**	**100 %**		**40**	**100 %**	**40**	**100 %**	

Fig 12 presents the posttest levels of urine albumin scores among the experimental and control groups, indicates that for GDM and anemia, there is no significant difference between the groups ($p > 0.05$, not significant). However, for PIH, a statistically significant difference was observed between the experimental and control groups.

Fig :12 Comparison Of Posttest Level Of Urine Albumin between the experimental and control group.

Table.no :4.8 Comparison Of Pretest Level Of Urine Sugar between the experimental and control group.

Above table shows the pretest level of urine sugar score between experimental and control group.Statistically there is no significant difference between experimental and control group. It was assessed using chi-square test.

Table.no :4.9 Comparison Of Posttest Level Of Urine Sugar between the experimental and control group.

Fig :13 Comparison Of Posttest Level Of Urine Sugar between the experimental and control group.

Displays the posttest urine sugar scores for the experimental and control groups The chi-square test results show no statistically significant
difference between the groups for GDM and anemia ($p > 0.05$, not significant). However, for PIH, a significant difference is observed between
the experimental and control groups**.**

Table.no :4.10 Comparison Of Pretest Level Of Knowledge Score between the experimental and control group.

The pretest levels of knowledge scores for the experimental and control groups are presented in the table for conditions including gestational
diabetes mellitus (GDM), anemia, and pregnancy-induced hypertension (PIH). For GDM, 90% of participants in the experimental group and
85% in the control group demonstrated an inadequate level of knowledge, with a small percentage in each group showing moderate knowledge levels (10% and 15%, respectively). None of the participants achieved an adequate level of knowledge in either group.
Similarly, for anemia, 85% of the experimental group and 82.5% of the control group displayed inadequate knowledge, while 15% and 17.5%,
respectively, had a moderate level of knowledge. For PIH, 90% of the experimental group and 87.5% of the control group had inadequate
knowledge, with 10% and 12.5% showing moderate knowledge levels.
Statistical analysis using the chi-square test indicates that there is no significant difference in knowledge scores between the experimental and control groups for GDM, anemia, and PIH ($p > 0.05$, not significant).

Table.no :4.11 Comparison Of Posttest Level Of Knowledge Score between the experimental and control group.

presents the posttest knowledge scores between experimental and control groups for conditions such as gestational diabetes mellitus (GDM),
anemia, and pregnancy-induced hypertension (PIH). Statistical analysis, using the chi-square test, indicates a significant difference between the experimental and control groups in each condition ($p > 0.05$, significant).
For GDM, in the experimental group, no participants scored at an inadequate level; 67.5% achieved a moderate level, and 32% reached a severe
level. Conversely, in the control group, 77.5% had inadequate scores, 22.5% were at a moderate level, and none reached adequate knowledge.
In cases of anemia, 55.55% of the experimental group scored at a moderate level, and 45% achieved a severe level, with no inadequate scores.
In the control group, 75% of participants had inadequate scores, 25% achieved a moderate level, and none reached an adequate level.

For PIH, 12.5% of the experimental group had inadequate scores, 52.5% scored at a moderate level, and 35% achieved a severe level. Meanwhile,
in the control group, 82.5% were at an inadequate level, 17.5% reached a moderate level, and none achieved adequate knowledge.
The chi-square test confirms a significant difference in posttest knowledge scores between the experimental and control groups across all conditions.

Fig:14 Comparison Of Posttest Level Of Knowledge Score between the experimental and control group.

Table.no :4.12 Comparison Of Knowledge Score Between Experimental Group And Control Group

The table compares the knowledge scores between experimental and control groups for conditions including gestational diabetes mellitus (GDM),
anemia, and pregnancy-induced hypertension (PIH), using the student independent t-test. The results are highly significant at ***$p \leq 0.001$,
indicating statistical significance.
For GDM, in the pretest, the experimental group had an average score of 12.43, while the control group scored 12.63, with a minimal difference
of 0.20, which was not statistically significant. In the posttest, however, the experimental group scored 21.23 compared to the control group's
13.00, resulting in a substantial difference of 8.22, which was statistically significant.
Regarding anemia, the pretest scores for the experimental and control groups were 12.43 and 12.80, respectively, with a difference of 0.37 that
was not statistically significant. In the posttest, the experimental group scored 22.63, while the control group scored 13.15, resulting in a large,
statistically significant difference of 9.48.
For PIH, the pretest scores were 12.73 for the experimental group and 12.93 for the control group, a difference of 0.20 that was not significant.
In the posttest, the experimental group scored 21.87, compared to 13.20 in the control group, with a significant difference of 8.67.
Across all conditions, the posttest differences indicate a large and statistically significant improvement in knowledge scores for the experimental
group compared to the control group.

Table.no :4.13 Comparison Of Knowledge Score Between Pretest And Posttest

This table compares the knowledge scores between pretest and posttest within both the experimental and control groups for conditions like gestational
diabetes mellitus (GDM), anemia, and pregnancy-induced hypertension (PIH). The differences were assessed using the Student paired t-test,
with highly significant results for the experimental group (***$p \leq 0.001$).
For GDM, in the experimental group, the pretest score was 12.43, which increased to 21.23 in the posttest, reflecting a large mean difference of
8.80 that was statistically significant. In the control group, the pretest score of 12.63 slightly increased to 13.00 in the posttest, with a small mean
difference of 0.37 that was not statistically significant.
For anemia, the experimental group's pretest score of 12.43 increased significantly to 22.63 in the posttest, yielding a large mean difference of
10.20, which was statistically significant. In the control group, the pretest score of 12.80 rose to 13.15 in the posttest, with a mean difference
of
0.35 that was not statistically significant.
For PIH, the experimental group also showed a significant increase from a pretest score of 12.43 to a posttest score of 22.63, resulting in a mean
difference of 10.20. The control group's scores rose slightly from 12.80 in the pretest to 13.15 in the posttest, with a small, non-significant mean
difference of 0.35.
In summary, across all conditions, the experimental group showed a statistically significant improvement in knowledge scores from pretest to
posttest, while the control group showed minimal, non-significant changes

Fig:15 Comparison Of knowledge score between pre test and post test

Table.no :4.14 Comparison Of Pretest QOL Score between the experimental and control group

The table shows the pretest Quality of Life (QOL) scores between the experimental and control groups for gestational diabetes mellitus (GDM), anemia, and pregnancy-induced

hypertension (PIH). The results were assessed using the chi-square test, and no significant differences were found between the groups ($p > 0.05$, not significant).

Table.no :4.15 Comparison Of Posttest QOL Score between the experimental and control group

Fig 16 compares the posttest Quality of Life (QOL) scores between the experimental and control groups for gestational diabetes mellitus (GDM), anemia, and pregnancy-induced hypertension (PIH). The chi-square test was used for statistical assessment, and significant differences were observed between the groups.

Table.no :4.16 Comparison Of pretest level of QOL score

The table shows the pretest Quality of Life (QOL) scores between the experimental and control groups for gestational diabetes mellitus (GDM),
anemia, and pregnancy-induced hypertension (PIH). The results were assessed using the chi-square test, and no significant differences were found
between the groups ($p > 0.05$, not significant).

For GDM, in the experimental group, 90% of participants had a poor level of QOL, 10% had a moderate level, and none had a good level. In
the control group, 87.5% had a poor level, 12.5% had a moderate level, and none had a good level.

In anemia, the experimental group had 80% with a poor level of QOL, 20% with a moderate level, and none with a severe level. In the control
group, 75% had a poor level, 25% had a moderate level, and none had an adequate level.

For PIH, 80% of the experimental group had a poor level, 20% had a moderate level, and none had a severe level. The control group showed
75% with a poor level, 25% with a moderate level, and none with an adequate level.

In all cases, the differences between the experimental and control groups were not statistically significant.

Table.no :4.17 Comparison Of post test level of QOL score

compares the posttest Quality of Life (QOL) scores between the experimental and control groups for gestational diabetes mellitus (GDM),
anemia, and pregnancy-induced hypertension (PIH). The chi-square test was used for statistical assessment, and significant differences were
observed between the groups. For GDM, in the experimental group, none of the participants had a poor QOL score, 55% had a moderate score, and 45% had a good score. In

the control group, 75% had a poor QOL score, 25% had a moderate score, and none had a good score. The difference between the groups was
statistically significant ($p > 0.05$).
For anemia, in the experimental group, none had a poor QOL score, 62.5% had a moderate score, and 37.5% had a good score. In the control
group, 67.5% had a poor QOL score, 32.5% had a moderate score, and none had a good score. The difference between the groups was statistically
significant ($p > 0.05$).
For PI
H, in the experimental group, none had a poor QOL score, 62.5% had a moderate score, and 37.5% had a good score. In the control group,
67.5% had a poor QOL score, 32.5% had a moderate score, and none had a good score. Again, the difference between the groups was statistically
significant ($p > 0.05$).
In summary, all three conditions (GDM, anemia, and PIH) showed significant improvements in QOL in the experimental group compared to the control group in the posttest.

Fig :16 Comparison of posttest level of QOL score.

Table.no :4.18 Comparison of QOL score between Experimental group and control group

The table compares the Quality of Life (QOL) scores between the experimental and control groups for gestational diabetes mellitus (GDM),
anemia, and pregnancy-induced hypertension (PIH), with statistical significance assessed using the student independent t-test. For GDM, in the pretest, the experimental group had a score of 41.28, and the control group had a score of 42.04, with a small difference of
0.82 that was not statistically significant. In the posttest, the experimental group scored 74.10, while the control group scored 42.27, showing a
large difference of 31.77, which was statistically significant ($p \leq 0.001$).
For anemia, in the pretest, the experimental group scored 40.10, and the control group scored 40.44, with a small difference of 0.34 that was
not statistically significant. In the posttest, the experimental group scored 72.54, while the control group scored 40.82, with a large difference of
31.72, which was statistically significant ($p \leq 0.001$).

For PIH, in the pretest, the experimental group had a score of 42.78, and the control group had a score of 43.60, with a small difference of 0.82,
which was not statistically significant. In the posttest, the experimental group scored 75.72, while the control group scored 43.95, showing a
large difference of 31.77, which was statistically significant ($p \leq 0.001$).
In summary, all three groups (GDM, anemia, and PIH) showed a significant improvement in the posttest QOL scores in the experimental group
compared to the control group, with differences in the posttest scores being statistically significant.

Table.no:4.19 Comparison of QOL score between pretest and posttest

	GDM						**ANEMIA**						**PIH**					
	Group				**Mean difference**	**Student paired t-test**	**Group**				**Mean difference**	**Student paired t-test**	**Group**				**Mean difference**	**Student paired t-test**
	Pretest		**Post-test**				**Pretest**		**Post-test**				**Pretest**		**Post-test**			
	Mean	**SD**	**Mean**	**SD**			**Mean**	**SD**	**Mean**	**SD**			**Mean**	**SD**	**Mean**	**SD**		
Experimental	41.28	1.89	74.10	2.60	32.82	**t=60.36 p=0.001*** (S)**	40.10	8.05	72.54	4.27	32.44	**t=24.39 p=0.001*** (S)**	42.78	3.19	75.72	2.09	32.94	**t=39.83 p=0.001*** (S)**
Control	42.04	1.72	42.27	1.80	0.23	t=1.75 p=0.09 (NS)	40.44	6.36	40.82	6.04	0.38	t=1.81 p=0.07 (NS)	43.60	1.92	43.95	2.12	0.35	t=1.79 p=0.08 (NS)

Objective 2: To correlate the knowledge physiological parameters and quality of life among high risk mothers

Table.no:4.20 Correlation between mean knowledge gain score , QOL gain score , SBP reduction score , DBP reduction score and GCT reduction score , (Experimental group n=40))

Knowledge gain score Vs QOL gain score **:** There is a Significant positive moderate correlation in all the three groups between knowledge gain score and QOL gain score. It means knowledge increases their QOL score also increases moderately.

knowledge gain score Vs SBP Reduction score: There is a significant positive moderate correlation in GDM and PIH group between knowledge gain score and SBP Reduction score. It means knowledge increases their SBP reduction score also increases moderately,

Knowledge gain score Vs DBP gain score **:** There is a significant positive fair correlation in GDM and PIH group between knowledge gain score and DBP Reduction score. It means knowledge increases their DBP reduction score also increases fairly.

Knowledge gain score Vs Hb gain score **:** There is a significant positive fair correlation between knowledge gain score and Hb gain score. It means knowledge increases their Hb gain score also increases fairly.

Knowledge gain score Vs GCT reduction score **:** There is a significant positive fair correlation between knowledge gain score and GCT reduction score. It means knowledge increases their GCT reduction score also increases fairly.

QOL gain score Vs SBP reduction score **:** There is a significant positive fair correlation between QOL gain score and SBP reduction score. It means knowledge increases their SBP reduction score also increases fairly.

QOL gain score Vs DBP reduction score **:** There is a significant positive fair correlation between QOL gain score and DBP reduction score. It means knowledge increases their DBP reduction score also increases fairly.

QOL gain score Vs Hb gain score **:** There is a significant positive fair correlation between QOL gain score and Hb gain score. It means knowledge increases their Hb gain score also increases fairly.

QOL gain score Vs GCT reduction score **:** There is a significant positive fair correlation between QOL gain score and GCT reduction score. It means knowledge increases their GCT reduction score also increases fairly.

Table.no :4.21 Correlation between mean knowledge gain score , QOL gain score , S BP reduction score , DBP reduction score and GCT reduction score , (Control group n=40))

The table states that in all the three groups there is non significant poor correlation between mean knowledge gain score , QOL gain score , SBP reduction score , DBP reduction score and GCT reduction score

Objective 3: To associate the mean difference level of knowledge physiological parameters and quality of life among high risk mothers with the selected demographic variables.

Table.no:4.22 Association Between Mean Differed Knowledge Score And GDM, ANEMIA, PIH Mothers Demographic Variables (Experimental Group N=40)

GDM: Mothers in the 21-25 years age group and those with 21-25 weeks of gestation gained more knowledge, as indicated by higher mean scores. **Anemia:** Mothers in the 21-25 years age group and those with higher education achieved more significant knowledge gains. **PIH:**21-25 years old mothers, those from a joint family, and more educated mothers showed higher knowledge scores.Statistical significance was assessed using One-way ANOVA F-test and Student Independent t-test.In all three conditions, younger mothers (21-25 years) and those with more education gained more knowledge, with the specific demographic associations being statistically significant. Additionally, for PIH, mothers from joint families also showed better knowledge gain.

Fig: 17 Association Between Mean Differed Knowledge Score And GDM, ANEMIA, PIH Mothers Demographic Variables (Experimental Group N=40)

Table.no :4.23 Association Between Mean Differed QOL Gain Score And GDM, ANEMIA, PIH Mothers Demographic Variables (Experimental Group N=40)

GDM: Mothers from nuclear families and those with higher family income showed higher QOL scores. **Anemia**: Diploma holders, rural mothers, and those with higher education had higher QOL scores. **PIH**: Similar to GDM, nuclear families and higher income families showed higher QOL scores. Statistical significance was assessed using One-way ANOVA F-test and Student Independent t-test. In GDM and PIH, nuclear family structure and higher income were linked to better QOL scores. In anemia, higher education and rural background contributed to better QOL scores.

Fig :18 Association Between Mean Differed QOL Gain Score And GDM, ANEMIA, PIH Mothers Demographic Variables (Experimental Group N=40)

Table.no: 4.24 Association Between Mean Differed SBP Score And GDM, Anemia, PIH Mothers Demographic Variables (Experimental Group N=40

Statistical significance was assessed using One-way ANOVA F-test and Student Independent t-test. In GDM, both younger mothers (21-25 years) and those with higher education (12th standard) had better SBP reduction. In PIH, 12th standard education and access to mass media information were associated with better SBP reduction.

Table.no:4.25 Association Between Mean Differed DBP Score And GDM, Anemia, PIH Mothers Demographic Variables (Experimental Group N=40)

Statistical significance was assessed using One-way ANOVA F-test and Student Independent t-test. In GDM, younger mothers (21-25 years) and those in the 21-25 weeks gestation period showed better DBP reduction. In PIH, mothers informed by family and friends and those with 12th standard education had better DBP reduction.

Table.no:4.26 Association Between Mean Differed GCT Score and GDM Mothers Demographic Variables (Experimental group n=40)

Statistical significance was assessed using One-way ANOVA F-test and Student Independent t-test. 21-25 years mothers and 12^{th} standard mothers are having more GCT reduction score than others.

Table.no :4.27 Association Between Mean Differed Haemoglobin Score and Anaemia Mothers Demographic Variables (Experimental group n=40)

Statistical significance was assessed using One-way ANOVA F-test and Student Independent t-test. 21-25 years and nuclear family mothers are having more HB score than others.

Fig:19 Association Between Mean Differed Haemoglobin Score and Anaemia Mothers Demographic Variables (Experimental group n=40)

Objective 4: To assess the perceived level of satisfaction in IT enabled program on risk reduction among high risk mothers.

Table.no:4.28 Statement wise Satisfaction Level of Score

Table.no :4.29 comparison of mean satisfaction score

Table :4.30 comparison of level of satisfaction

	Group						Chi square test
	Anemia		PIH		GDM		
	n	%	n	%	n	%	

Slightly satisfied	3	7.50%	5	12.50%	8	20.00%	$\chi 2=7.94$
Satisfied	35	87.50%	29	72.50%	24	60.00%	p=0.09(NS)
Extremely satisfied	2	5.00%	6	15.00%	8	20.00%	
TOTAL	40	100.00%	40	100.00%	40	100.00%	

Statistically there is no significant difference between Anemia, PIH and GDM

Table.no: 4.31 Association between user time duration and outcome of mobile application

Comparison of Duration of outcome

	n	Mean Duration	SD	Oneway ANOVA F-test
GDM	40	7.38	2.36	
Anemia	40	7.84	1.98	F=1.22
PIH	40	15.41	3.08	p=0.05(NS)
Total	120	10.21	4.46	

The table presents the comparison of mobile app usage timing among antenatal mothers with GDM, Anemia ,and (PIH). A one-way ANOVA test was conducted, showing a statistically Non significant difference in mobile app usage timing between groups.

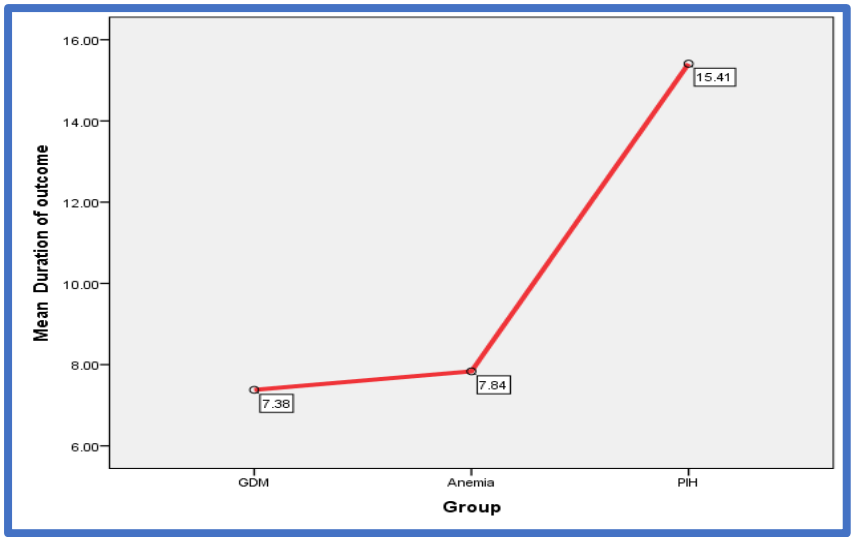
Multiple Comparisons using Bonferroni t-test

Group	Group	Mean Duration Difference	Significance.
GDM	Anemia	-.45	.418 (NS)
	PIH	-8.03	.001***(S)
Anemia	GDM	.45	.418(NS)
	PIH	-7.57	.001***
PIH	GDM	8.03	.001***
	Anemia	7.57	.001***

*. The mean difference is significant at the 0.05 level.

GDM and Anemia , there is no significant difference
PIH and Anemia , there is a significant difference
PIH and GDM , there is a significant difference

Fig : 20 Line graph compares the duration of outcome between GDM, ANEMIA and PIH



CHAPTER – V

DISCUSSION

This chapter discusses the findings of the study derived from descriptive and inferential statistical analysis.

The first objective is to determine the effectiveness of IT enabled program on risk reduction among high risk mothers.

This study reveals that among the three groups of high risk mother GDM mothers in the experimental group, no participants scored inadequate level of knowledge; 67.5% achieved a moderate level, and 32% reached adequate level of knowledge. Conversely, in the control group, 77.5% had inadequate level scores, 22.5% were at a moderate level, and none reached adequate level of knowledge.

In cases of anemia, 55.55% of the experimental group scored at a moderate level of knowledge, and 45% achieved adequate level of knowledge, with no inadequate level scores. In the control group, 75% of participants had inadequate level scores, 25% achieved a moderate level of knowledge, and none reached an adequate level of knowledge.

For PIH, 12.5% of the experimental group had inadequate level of knowledge, 52.5% scored at a moderate level, and 35% achieved adequate level of knowledge. Meanwhile, in the control group, 82.5% were at an inadequate level of knowledge, 17.5% reached a moderate level, and none achieved adequate level of knowledge.

The comparison of pretest and posttest clinical investigation among experimental group reveals the finding as there is a significant difference between the pretest and posttest with SBP, DBP and GCT.

The comparison of posttest level of urine albumin and urine sugar between experimental group and control group, reveals as there is a significant difference in PIH group and no significant difference in Anemia and GDM group.

The comparison of posttest level of QOL score reveals the result as all three groups (Anemia, GDM, PIH) had significant improvement in QOL in the experimental group compared to the control group.

Matthijs R van Dijk.,etal (2020) conducted a study on A Mobile App Lifestyle Intervention to Improve Healthy Nutrition in Women Before and During Early Pregnancy: Single-Center Randomized Controlled Trial fruits, and folic acid supplements. The sum of these risk factors was used as a dietary risk score (DRS), ranging from 0 (healthy) to 9 (unhealthy). This study Concluded that the high compliance and the larger improvements in nutritional behaviors, especially vegetable intake, in women in the intervention group emphasizes the effectiveness of empowering women by using the lifestyle change intervention Smarter Pregnancy.

Hence "the research hypothesis RH1 There is a significant difference between the pre and posttest level of knowledge, physiological parameters and quality of life among high risk mothers within and between experimental and control group was accepted".

The second objective is to correlate the knowledge, physiological parameters and quality of life among high risk mothers.

There is a Significant positive moderate correlation in all the three groups between knowledge gain score and QOL gain score. It means knowledge increases their QOL score also increases moderately. There is a significant positive moderate correlation in GDM and PIH group between knowledge gain score and SBP Reduction score. It means knowledge increases their SBP reduction score also increases moderately, There is a significant positive fair correlation in GDM and PIH group between knowledge gain score and DBP Reduction score. It means knowledge increases their DBP reduction score also increases fairly.

There is a significant positive fair correlation between knowledge gain score and Hb gain score. It means knowledge increases their Hb gain score also increases fairly.

There is a significant positive fair correlation between knowledge gain score and GCT reduction score. It means knowledge increases their GCT reduction score also increases fairly.There is a significant positive fair correlation between QOL gain score and SBP reduction score. It means knowledge increases their SBP reduction score also increases fairly.

There is a significant positive fair correlation between QOL gain score and DBP reduction score. It means knowledge increases their DBP reduction score also increases fairly.

There is a significant positive fair correlation between QOL gain score and Hb gain score. It means knowledge increases their Hb gain score also increases fairly.

There is a significant positive fair correlation between QOL gain score and GCT reduction score. It means knowledge increases their GCT reduction score also increases fairly.

Justyna Krzepota., etal in **2018**, conducted a study on Relationships between Physical Activity and Quality of Life in Pregnant Women in the Second and Third Trimester

The aim of this study was to analyze the relationships between PA and QoL among pregnant women. The study was analyzed 346 questionnaires filled in by pregnant women (157 in the second trimester and 189 in the third). The tool used for assessment of PA was the Pregnancy Physical Activity Questionnaire-Polish version (PPAQ-PL). The quality of life (QoL) was assessed by the World Health Organization Quality of Life Questionnaire-short form (WHOQoL-Bref). The findings Revealed that There was a significant correlation in the group of women in the second trimester of pregnancy between quality of life in the *physical health domain* and the intensity and type of physical activity and it was Concluded this study makes an important contribution to knowledge concerning the correlations between PA and QoL in pregnancy. The results suggest the need for improvement in prenatal care and promotion of PA programs for pregnant women.

Hence "RH_2 There is a significant correlation between knowledge, physiological parameters and quality of life among high risk mothers in experimental and control group was accepted".

The third objective was to associate the mean difference level of knowledge, physiological parameters and quality of life among high risk mothers with the selected demographic variables.

In this study association between mean differed knowledge score and GDM, Anemia, PIH mothers with demographic variables reveals all three conditions, younger mothers (21-25 years) and those with more education gained more knowledge, with the specific demographic associations being statistically significant. Additionally, for PIH, mothers from joint families also showed better knowledge gain with in the experimental group.

Association between mean differed QOL score and GDM, Anemia , PIH mothers with demographic variables reveals In GDM and PIH, nuclear family structure and higher income were linked to better QOL scores. In anemia, higher education and rural background contributed to better QOL scores.

Association Between Mean Differed SBP Score And GDM, Anemia, PIH Mothers Demographic Variables in GDM, both younger mothers (21-25 years) and those with higher

education (12th standard) had better SBP reduction. In PIH, 12th standard education and access to mass media information were associated with better SBP reduction.

Association Between Mean Differed DBP Score And GDM, Anemia, PIH Mothers Demographic Variables in GDM, younger mothers (21-25 years) and those in the 21-25 weeks gestation period showed better DBP reduction. In PIH, mothers informed by family and friends and those with 12th standard education had better DBP reduction.

Association Between Mean Differed GCT Score And GDM Mothers Demographic Variables, 21-25 years mothers and 12^{th} standard mothers are having more GCT reduction score than others.

Association Between Mean Differed Hb Score And Anemia Mothers Demographic Variables, 21-25 years and nuclear family mothers are having more HB score than others. Kristi B Adamo etal., 2023 conducted a study on SmartMoms Canada: An evaluation of a mobile app intervention to support a healthy pregnancy This was a feasibility trial. Pregnant individuals aged 18-40 years with pre-gravid body mass index between 18.5 and 39.9 kg/m^2, carrying a singleton fetus, having Wi-Fi access, and at ≤20 weeks' gestation will be recruited. Eligible people will be followed from recruitment until 12 months postpartum.The study findings reveals that SmartMoms Canada is the first bilingual Canadian-centric app designed for pregnant people. This mHealth intervention, with its ability to supply frequent interactions, provides pregnancy- related health knowledge to users, potentially leading to an improvement in pregnancy-related outcomes and behaviours, and, ultimately a reduction in the present economic burden related to in-person interventions.

Hence research hypothesis" RH_3 There is a significant association between the level of knowledge, physiological parameters and quality of life among high risk mothers with their selected demographic variables was accepted".

The fourth objective was to assess the perceived level of satisfaction in IT enabled program on risk reduction among high risk mothers.

None of them are having poor level of satisfaction score in all the three groups.

CHAPTER VI

This chapter deals with summary , conclusion, nursing implication and recommendation

SUMMARY: The major findings are

- Across all three types of antenatal mothers, the posttest differences indicate a large and statistically significant improvement in knowledge scores for the experimental group compared to the control group.
- In summary, all three conditions (GDM, anemia, and PIH) showed significant

improvements in QOL in the experimental group compared to the control group in the posttest.

- When knowledge increases their QOL score also increases moderately, knowledge increases their SBP reduction score improves moderately, knowledge increases their DBP reduction score improves fairy, QOL increases their GCT reduction score improves fairy.
- There was a significant positive moderate correlation between knowledge gain score and QOL gain score
- There was a significant correlation between knowledge, physiological parameters and quality of life among high risk mothers in experimental and control group
- There was a significant association between the level of knowledge, physiological parameters and quality of life among high risk mothers with their selected demographic variables
- The majority of 85% of mothers who have undergone mobile application intervention package have high level of satisfaction.

NURSING IMPLICATION:

Nursing Research

Similar studies can be done among different high risk pregnancy in different settings and large group of population

Nursing administration

Nurse admistrator can Recommend Safe pregnancy Mobile APP for nursing students for the benefit of community.

Nursing practice

Adopting the Safe pregnancy Mobile Application in the hospital and community setup will improve the health and quality of life among high risk mothers and thereby reduce maternal mortality rate.

Nursing Education

Nurse educator can promote the nursing students to initiate Mobile application as a method to improve the health literacy of the patients.

Recommendations:

- The study can be repeated with large number of samples and with different study designs.

- The health care centers can take initiative in adopting mobile app for promoting knowledge, quality of life and improve health status.
- Nurses can adopt mobile app for health education as part of their routine care.
- The study can be done among different samples to enhance its effectiveness among different high risk mothers.
- The research ought to be repeated with a bigger sample of patients from various regions of the country.

CONCLUSION: The present study on Effectiveness of Information Technology Enabled programe on risk reduction among high risk mothers at selected PHC , the findings concludes that there was a significant effectiveness of mobile application usage among high risk mothers on risk reduction after the intervention period. Hence this proves that information technology usage for educating the high risk mother for improving health and reduce the risk of high risk pregnancy and its complications.

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